

SUMMARY

S.1 Introduction

The U.S. Atomic Energy Commission, a U.S. Department of Energy (DOE) predecessor agency, established the Savannah River Site (SRS) near Aiken, South Carolina, in the early 1950s. The primary mission of SRS was to produce nuclear materials for national defense. With the end of the Cold War and the reduction in the size of the United States' stockpile of nuclear weapons, the SRS mission has changed. While national defense is still an important facet of the mission, SRS no longer produces nuclear materials and the mission is focused on material stabilization, environmental restoration, waste management, and decontamination and decommissioning of facilities that are no longer needed.

L-1-10 | As a result of its nuclear materials production
L-5-2 | mission, SRS generated large quantities of high-
L-7-10 | level radioactive waste (HLW). The HLW
resulted from dissolving spent reactor fuel and
nuclear targets to recover the valuable
radioactive isotopes. DOE had stored the HLW
in 51 large underground storage tanks located in
the F- and H-Area Tank Farms at SRS. DOE
has emptied and closed two of those tanks.
DOE is treating the HLW, using a process called
vitrification. The highly radioactive portion of
the waste is mixed with a glass like material and
stored in stainless steel canisters at SRS,
pending shipment to a geologic repository for
disposal. This process is currently underway at
SRS in the Defense Waste Processing Facility
(DWPF).

TC | The HLW tanks at SRS are of four different
types, which provide varying degrees of
protection to the environment due to different
degrees of containment. The tanks are operated
under the authority of the Atomic Energy Act of
1954 (AEA) and DOE Orders issued under the
AEA. The tanks are permitted by the South
Carolina Department of Health and
Environmental Control (SCDHEC) under South
Carolina wastewater regulations, which require
permitted facilities to be closed after they are

removed from service. DOE has entered into an
agreement with the U.S. Environmental
Protection Agency (EPA) and SCDHEC to close
the HLW tanks after they have been removed
from service. Closure of the HLW tanks would
comply with DOE's responsibilities under the
AEA and the South Carolina closure
requirements and be carried out under a schedule
agreed to by DOE, EPA, and SCDHEC.

EC

There are several ways to close the HLW tanks.
DOE has prepared this Environmental Impact
Statement (EIS) to ensure that the public and
DOE's decision makers have a thorough
understanding of the potential environmental
impacts of alternative means of closing the
tanks. This Summary:

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- describes the HLW tanks and the closure
process,
- describes the National Environmental Policy
Act (NEPA) process that DOE is using to
aid in decision making,
- summarizes the alternatives for closing the
HLW tanks and identifies DOE's preferred
alternative, and
- identifies the major conclusions regarding
environmental impacts, areas of controversy,
and issues that remain to be resolved as
DOE proceeds with the HLW tank closure
process.

EC

S.2 High-Level Waste Storage and Tank Closure

S.2.1 HIGH-LEVEL WASTE

DOE Manual 435.1-1, which provides direction
for implementing DOE Order 435.1, *Radioactive
Waste Management*, defines HLW as "highly
radioactive waste material resulting from the
reprocessing of spent nuclear fuel, including
liquid waste produced directly in reprocessing
and any solid material derived from such liquid
waste that contains fission products in sufficient